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Second Annual Report

OF THE

Georgia State Board of Health

OF THE

Commonwealth of Georgia

TRANSMITTED TO THE GOVERNOR

JANUARY 1, 1906

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LETTER OF TRANSMITTAL.

COMMONWEALTH OF GEORGIA,
STATE BOARD OF HEALTH,
EXECUTIVE OFFICE, January 1, 1906.

To His Excellency, Joseph M Terrell, Governor of Georgia.

SIR: In accordance with the instructions of the State Board of Health of Georgia, I have the honor to herewith transmit to you the report of the Georgia State Board of Health for the year 1905.

It will be observed that no vital statistics are included in this report, which is due to the fact that, with the exception of some of the larger cities within the State, we have as yet been unable to secure active local Boards of Health, and without such organizations it is impossible to obtain any sort of data. This condition of affairs can never be properly remedied and no statistics of any value can ever be obtained until County Boards of Health are established in every part of the State, and this can never be satisfactorily accomplished until such Boards are made a part of the regular county governments. It is our hope that the General Assembly will see fit to provide for this very important matter at some time in the early future.

The Board of Health especially instructs me to call attention to the scientific work that is being accomplished in its laboratory, particularly as regards the free examination of specimens for the germs that produce disease; this work is rapidly increasing, and is beyond

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question having a most beneficial effect on the health of the State and will in future result in still greater good.

Within recent times it has been shown that probably the most valuable agent in making early diagnoses in consumption is a substance known as "tuberculin;" this preparation is now being manufactured in our laboratory and within a short while we hope to be able to supply all that is needed to the physicians of the State free of cost. This matter is of great importance, inasmuch as "tuberculin" is also being recognized as a most potent agent in the treatment of consumption, and as we can supply any quantity for this purpose it is believed that this work of our laboratory will result in great good.

We are also making preparations to establish in connection with the laboratory a Pasteur Institute for the treatment of hydrophobia. Statistics from all parts of the world show clearly the benefit that results from this treatment, and it is thought that we can supply the necessary material at a comparatively low cost. In the vast majority of cases those who are bitten by mad dogs are financially unable to go to distant cities for treatment, and in order to obviate this it is our intention to supply the patient's physician with the necessary materials, and allow the treatment to be carried out at home. We think this can be successfully accomplished, and if so, a great deal of money can be saved, and in many cases persons who would otherwise be unable to receive the benefit of the treatment can procure it at home free of cost.

Respectfully submitted,

H. F. HARRIS,
Secretary.

STATE BOARD OF HEALTH,

COMMONWEALTH OF GEORGIA.

1905.

OFFICERS AND MEMBERS.

President..... W. F. WESTMORELAND
Vice-President..... CHARLES HICKS
Secretary..... H. F. HARRIS

MEMBERS.

Dr. W. W. Owens..... Savannah
Dr. A. P. Taylor..... Thomasville
Dr. M. S. Brown..... Fort Valley
Dr. W. W. Stewart..... Columbus
Dr. W. F. Westmoreland..... Atlanta
Dr. Howard J. Williams..... Macon
Dr. R. M. Harbin..... Rome
Dr. Samuel C. Benedict..... Athens
Dr. Giles Hathcock..... Bellton
Dr. J. B. Morgan..... Augusta
Dr. Chas. Hicks..... Dublin
Dr. H. F. Harris..... Atlanta

PLACE OF MEETING—State Capitol, Atlanta, Ga.

TIME OF MEETING—Tuesday following the first
Monday January and June, at 10 A.M.

EXECUTIVE COMMITTEE.

Dr. Morgan, Chairman, Dr. Williams,
Dr. Hicks, Dr. Benedict,
Dr. Owens, Dr. Taylor.

Bacteriologist..... DR. C. R. ANDREWS
Clerk..... MISS ANNIE BRYSON

SECOND ANNUAL REPORT
OF THE
Secretary of the State Board of Health
OF THE
Commonwealth of Georgia.

During the year 1905 the Georgia State Board of Health was in session four times. In two instances the meetings were regular, while in the other cases the Board assembled in response to a call issued by the President for the purpose of discussing the threatened yellow fever epidemic.

At the first and second regular meetings of the Board there were addresses by the President calling particular attention to the inadequacy of the health laws of Georgia, and pointing out the impossibility of the State Board of Health accomplishing the greatest amount of good to the people of our State as long as there existed laws of uncertain and doubtful meaning restricting the powers conferred upon the Board. Attention was also directed to the fact that the Board in order to be of the most possible service should have conferred upon it additional authority

At these meetings there were also general discussions as to the health condition in Georgia. The subjects of smallpox, vaccination, typhoid fever, hook-worm disease, malaria, diphtheria and consumption were considered, and the Secretary was instructed to prepare concise popular bulletins on these subjects for dissemination over the State. Following these discussions the reports of the Secretary were read and adopted.

These reports were as follows :

REPORT OF THE SECRETARY OF THE STATE
BOARD OF HEALTH OF GEORGIA FROM
JANUARY 1, TO MAY 31, 1905,
INCLUSIVE.

GENTLEMEN : I have the honor to submit the following report of the work accomplished since the last meeting of the Board :

My time has been divided up between laboratory and field work, though, owing to various causes, not so much of the latter has been done proportionately as heretofore. During the first five months of the year I have been to seven counties and eight towns, my visits in every instance, except one, being occasioned by the presence of smallpox in the respective localities. This great diminution in field work has probably resulted from several causes, one being, I am sure, a decided decrease in the amount of smallpox in the State, and another the gradual recognition of the fact by the people that our Board is powerless to render efficient aid. The counties visited were Liberty, Cobb, DeKalb, Meriwether, Thomas, White and Glynn, smallpox being in all of these counties except the last mentioned. The number of cases of smallpox which were said by the local authorities to be present in these counties at the time of my visits were as follows :

Liberty, 25 or 30; Cobb, 15 or 20; DeKalb, 3; Meriwether, 40; Thomas, 125; White, 25.

In each of these counties the local authorities were conferred with and all urged to enforce compulsory vaccination; how far this was done can not be said, but there seemed to be some tendency to carry out the wishes of the Board everywhere, except at Meigs, in Thomas county, where the people and town officials seemed almost unanimously against vaccination.

My visit to Glynn county was on the invitation of the School Board, which requested me to give the teachers a talk on the subject of the prevention of tuberculosis.

On the order of the President and Executive Committee of the Board, I went to the meeting at Washington, D. C., of the representatives of the various State Health Boards and Marine Hospital Service; at this meeting there was a general discussion as to the betterment of health conditions of the United States, with particular reference to typhoid fever and smallpox. The meeting passed a unanimous resolution stating that the only practical way to combat smallpox was by means of vaccination, this according entirely with our experience in this State. Following this meeting I, at the invitation of Dr. Fulton, Secretary of the State Board of Health of Maryland, went over to Baltimore and inspected their laboratories and the workings of the Board in that State; this visit was very profitable as regards a number of matters concerning laboratory technique. I also ran over to Philadelphia and inspected the laboratories of the City Board of Health; there being no State laboratory in Pennsylvania. This visit was prompted by a desire to see just the technique employed by them in the making of the Widal test for typhoid fever, as, on account of the prevalence of this disease in Philadelphia, there is no place in the country where so much work of this kind is done.

Our laboratory work has grown considerably during the present year, 163 examinations in all having been made. These examinations may be classified as follows:

	Positive.	Negative.	Doubtful.
Diphtheria	1	3	1
Tubercle Bacilli	34	74	
Hook-worm	15	25	
Ring-worm	3	2	
Widal	1	2	
Water analysis	2 samples.		
	—	—	—
Total	56	106	1

I have prepared, and herewith submit to the Board, a number of circulars on infectious diseases, to be distributed to the people of the State; if this meets with the approval of the Board, we will be ready to send them out within the next two or three days.

As before remarked, it is probably true that smallpox has decreased in Georgia, but this can not be stated with absolute certainty. During the preceding five months I have had reported to me 995 cases of smallpox, which unquestionably comprises a very small percentage of the total number of instances of the disease that occurred in the State during this period. In many instances the number of cases was not stated, the person reporting merely stating that the disease was epidemic. Of course, under such circumstances, it was impossible to form any idea as to the number of cases.

As reported to me, the disease has been present to a greater or less extent in the following named counties:

Banks, Bartow, Berrien, Brooks, Bryan, Bulloch, Burke, Cobb, Colquit, Columbia, Dade, Decatur, DeKalb, Effingham, Elbert, Floyd, Forsyth, Hancock, Harris, Houston, Jackson, Jones, Liberty, Lowndes, Macon, Meriwether, Morgan, Pierce, Polk, Randolph, Screven, Taliaferro, Thomas, Troup, Warren, Washington, Wayne, White, Wilcox, Wilkes, Wilkerson and Worth.

From the above it will be seen that smallpox is still widely epidemic in Georgia, and we very strongly need laws that will give us the authority to enforce vaccination.

Very few infectious diseases other than smallpox appear to be present to any extent in Georgia at the present time, there being clearly only a very small amount of diphtheria, and perhaps, in some localities, measles, though I have had not more than four or five reports given of these diseases.

The expenses of the Board for the preceding five months have been as follows :

Expenses of Janury meeting :

Dr. Brown	\$ 16 34
Dr. Owens	32 97
Dr. Taylor	28 53
Dr. Hathcock	12 00
Dr. Harbin	11 50
Dr. Benedict	16 13
Dr. Morgan	20 25
Dr. Hicks	17 64
Dr. Westmoreland	5 00
Total	\$160 36

Expenses of the Secretary :

January	\$ 00 00
February	18 44
March	2 00
April	17 55
May	139 61
Total	\$177 60

Other expenses have been :

Laboratory apparatus and supplies	\$1,288 33
Telephone 10, 22, 04—6, 31, 05	33 07
Express, freight and drayage on apparatus ..	56 23
Telegrams, blank books, and incidentals	11 83
Dr. Westmoreland, expenses incurred for Board, including typewriting, letters, stamps, telegrams and chest of drawers ..	66 34
Journals for Laboratory	8 45
Laundry from October 29 to March 11	14 10
Stamps	10 00
Vaccine points	575 00

Total \$2,053 35

Salary of Secretary at \$2,000 per year	\$ 833 32
Salary of Bacteriologist at \$1,000 per year ..	416 66
Salary of Clerk at \$1,000 per year	416 66
Salary of Janitor at \$10 per month	50 00

Total \$1,716 64

Expenses were then :

January meeting of Board	160 36
Expenses Secretary	177 60
Salary Secretary ..	833 32
Salary Bacteriologist, Clerk, and Janitor	883 32
General expenses ..	1,478 35
Vaccine points	575 00

Total \$4,107 95

On hand January 1, 1905.	\$7,731 85
Expenses from Jan. 1 to May 31, inclusive ..	4,107 95

Balance \$3,623 90

Respectfully submitted.

H. F. HARRIS,
Secretary.

REPORT OF THE SECRETARY, FROM JUNE 1 TO DEC. 31, 1905.

GENTLEMEN :

I have the honor to submit the following report of work done since the last regular meeting of the Board :

Since June 1st, 1905, the principal work accomplished by your Secretary was in connection with the quarantine instituted against yellow fever September 7, 1905, and terminating October 25, 1905.

It is not necessary here to go into detail concerning the greater part of this, as, at the meeting of September 18, 1905, the records of what had been done were submitted to you and approved.

Notwithstanding the fact that by the Court's decision the power of this Board was declared limited only to action as regards the general sanitary conditions of the State, we afterwards experienced no difficulty in carrying out your instructions. Quarantine was continued up to October 25, 1905, with a gradual lessening of the number of inspectors, and with as much decrease in the expense as possible.

I am glad to say that our quarantine, as compared with surrounding States, was remarkably inexpensive, the total sum paid out being three thousand eight hundred and twenty-nine dollars and sixty-nine cents (\$3,829.69). This sum was divided up as follows :

Salary of inspectors	\$3,624 42
Telegrams and telephones	121 27
Interest	84 00

\$3,829.69

Of this amount the Governor furnished	\$2,200 00
The remainder	1,629 69

having been borrowed on a letter of the Governor stating that he would issue warrants for its payment out of the funds appropriated for the Georgia State Board of Health for the year 1906.

It is to be hoped the amount expended from the regular allowance for our Board will be reimbursed by the General Assembly at the coming session.

The Board is to be congratulated upon the fact that the quarantine was entirely successful, not a single case of yellow fever having developed after it was instituted so far as is known.

In addition to the quarantine I have also carried on the usual work in connection with smallpox and other contagious diseases. I am gratified to say that there has been a most marked decrease in the number of calls to the different parts of the State on account of smallpox, there being every evidence that this disease is greatly on the decline.

Since my last report I have visited the following counties :

Hall, Morgan, Campbell, Rockdale, Pike, Wayne, Washington, Dougherty and Thomas.

The towns visited were :

Belton, Buckhead, Redoak, Conyers, Molena, Jesup, Davisboro, Pretoria and Thomasville—in several instances more than one trip having been made to some of these points. Out of this number only the calls from Pike, Washington and Wayne counties were sent in on account of supposed smallpox. In the first two this disease was discovered, but in the last named the infection proved to be chickenpox. The calls to Morgan and Campbell counties came during the period of the yellow fever scare, and my presence was requested on account of supposed cases of the disease. In neither instance was it at all probable that the infection was yellow fever.

In the remaining instances my presence was requested in connection with malaria, tuberculosis and the so-called "slow fever," which prevailed to an alarming extent during the past summer.

Our laboratory work is still growing, there having been made since my last report 293 examinations, divided up as follows :

	POSITIVE.	NEGATIVE.	DOUBTFUL.
Diphtheria-----	11	7	--
Tubercle Bacilli---	45	107	--
Hook-worm-----	30	24	--
Widal-----	8	49	4
Water Analyses----	7	---	--
Tape-worm-----	1	---	--
	—	—	—
Total....	102	187	4

Although I have been requested to visit only two points on account of smallpox since our last regular meeting, information has reached our office that the disease has prevailed to a greater or lesser extent in the following named counties :

Fulton county.....One case.
 Henry county.....Two cases.
 Macon county.....Few cases.
 Meriwether county.....Few cases.
 Upson county.....Number of cases.

I have also learned, unofficially, that there have been recently quite a number of cases in Jefferson county. At the time of my visit many cases were reported in Pike county, and one case was seen in Washington county. I could not ascertain the exact number of cases in any instance, so it is impossible to make a statement of the total number.

Before closing this part of my report I wish to particularly draw the attention of this body to the great prevalence in some parts of our State of the so-called "slow fever," and to the frightful amount of invalidism and the enormous cost yearly entailed by this disease in our State. It would be impossible to estimate the number of cases that annually occur, but that this is enormous, members of this Board from the southern portion of Georgia particularly can testify. As you are all aware, the true nature of this disease is not understood; some regard it as being typhoid, while others look upon it as a mixed infection of the above named disease with malaria. The disease pursues such an erratic course that it is not impossible, as many believe, that it is a separate and distinct affection. If the Board will give me its support I will be only too glad to undertake a thorough and systematic investigation of the malady. In order to do so a laboratory should be established at some point in the southern portion of the State, and two or three assistants would be necessary. I am satisfied that the cost would not be great, as we could probably get some young physicians to take charge of the work for a small compensation, and I think that one or two intelligent students could be secured for their actual expenses. The cost of establishing the laboratory would be very small, as we have an abundant outfit already, and it would only be necessary to carry down the necessary instruments to whatever point was selected. I trust that the Board will see its way clear to give me assistance in this very important matter.

Below is a statement of the financial condition of the Board.

EXPENSES OF MEETING JUNE, 1905.

Dr. Owens	\$ 32 35	
“ Westmoreland	5 00	
“ Williams	15 22	
“ Harbin	9 00	
“ Hathcock	12 00	
“ Hicks	16 64	
		\$ 90 21

EXPENSES OF MEETING SEPTEMBER 2, 1905.

Dr. Owens	\$ 34 00	
“ Hathcock	10 00	
“ Hicks	21 28	
“ Taylor	31 84	
“ Harbin	13 10	
“ Morgan	22 76	
“ Westmoreland	5 00	
		\$ 137 98

EXPENSES OF MEETING SEPTEMBER 18-19, 1905.

Dr. Harbin	\$ 21 60	
“ Owens	46 30	
“ Hathcock	20 00	
“ Morgan	23 26	
“ Westmoreland	10 00	
“ Hicks	30 28	
“ Brown	27 84	
“ Williams		
		\$ 179 28

EXPENSES OF SECRETARY.

June	\$ 31 00	
July and August	13 25	
September	21 75	
October		
November	8 50	
December	43 70	
		\$ 118 20

SALARIES.

Secretary	\$ 1,166 68
Clerk	358 32
Assistant	666 67
Office Boy	80 80

OTHER EXPENSES.

Incidentals—August	\$ 5 46
Telephone 7/1/05 to 12/31/05	24 00
Stamps	10 00
Carpenter, fixing up dark room	34 20
Drawings	10 00
Food Analysis	7 50
Cabinet	29 00
Ice	3 50
Incidentals—September	9 76
Typewriter supplies	4 25
Water	3 75
Stamps	10 00
Incidentals—October	2 22
Brass tubes	2 50
Water	2 00
Vaccine	21 50
Shades	10 20
Vaccine	7 08
Incidentals, office supplies	5 40
Water Cooler	11 75
Laundry, 4/1/05 to 8/30/05	6 00
Incidentals	3 75
Laboratory—supplies	12 84
Telegrams, November and December	4 80
Water	3 75
Incidentals, December	3 55
Printing	102 38

Our expenses have been then as follows :

Expenses of meeting, June 6, 1905	\$ 90 21
“ “ “ September 2, 1905	137 98
“ “ “ September 18, 1905	179 28
Salary Secretary	1,166 68
“ Assistant	666 67
“ Clerk	358 32
“ Office Boy	80 80
Stamps, vaccine virus, printing, laboratory supplies, telegrams, telephone, and incidentals ..	351 14
Expended on quarantine	1,629 69

Total expenses

\$ 4,778 97

We had on hand June 1, 1905	\$ 3,623 90
Balance salary Secretary for 1903 reverted to treasury	1,388 90

Balance

\$ 2,235 00

Borrowed

2,129 69

Total

\$ 4,364 69

Total expenses are then	\$ 4,778 97
• “ sum obtained by Board	4,364 69

Which leaves amount due bank	\$ 414 28
Amount borrowed	2,129 69
“ due bank	414 28

Total indebtedness

\$ 2,543 97

Respectfully submitted,

H. F. HARRIS, Secretary.

MEETINGS IN CONNECTION WITH THE THREATENED EPIDEMIC OF YELLOW FEVER.

On September 2d and September 18th, the Board was in session to consider the threatened epidemic of yellow fever. That this action on the part of the Board was not premature was clearly demonstrated by the fact that a case of yellow fever developed in Atlanta on the very day that the meeting occurred:

Dr. Westmoreland, President of the Board, spoke at some length on the subject of yellow fever, and asked expressions from members of the Board on this subject.

On motion of Dr. Morgan, seconded by Dr. Owens, a resolution was passed instructing the Secretary to issue a circular on the prevention of yellow fever, and also ordering the same official to send a considerable number of copies of the proposed circulars to each member of the Board. The President and Secretary were instructed to write popular letters on the subject of yellow fever when it was deemed by them necessary.

On motion of Dr. Owens, seconded by Dr. Morgan, a resolution was passed instructing the Secretary to send a communication to the Atlanta Board of Health to the effect that it is the sense of the State Board of Health that the city of Atlanta should at once quarantine against all points infected with yellow fever.

On motion of Dr. Owens, seconded by Dr. Taylor, the following resolution was adopted :

Resolved, That the State Board of Health of Georgia do hereby censure the Local Board of Health of the city of Atlanta for not promptly reporting to the State Board of Health that there was a suspected case of yellow fever in Atlanta which had been sent to the detention camp, and further for not reporting immediately.

ately upon the confirmation of the diagnosis of yellow fever in the case of one Caruthers.

Be it further Resolved, That the Local Board of Health of Atlanta be notified that in future all suspicious cases must be reported promptly to the Secretary of the Georgia State Board of Health.

On motion of Dr. Owens, seconded by Dr. Taylor, a resolution was adopted instructing the Secretary of the Georgia State Board of Health to give the above resolution to the newspapers.

On motion of Dr. Morgan, seconded by Dr. Owens, the following resolution was adopted :

WHEREAS, Yellow fever has been announced as being present in the State of Florida, and one case in Atlanta, Ga. ; be it

Resolved, That if any city, town or county of the State of Georgia which may be advised by the State Board of Health to institute local quarantine, and for any cause may fail or neglect to do so that the State Board of Health instructs the President and Secretary of the Board to promptly take charge, and put into effect necessary quarantine regulations, and charge expenses of same to said city, town or county.

After full and free discussion of the scope of the proposed quarantine, the expense and means of securing the funds for the purpose was considered. A map of the State was gone over to see the number of points necessary to place inspectors in order to protect the State.

The concensus of opinion of the Board was that State quarantine be established.

On motion of Dr. Hicks, seconded by Dr. Morgan, the following resolution was unanimously adopted :

Resolved, That the President and Secretary of this Board confer with the Governor relative to expenses

of State quarantine, and that if the Executive provide funds the President and Secretary of the Board take such steps as are necessary under the provisions of the public health laws of Georgia to prevent the importation and spread of yellow fever.

On motion of Dr. Harris, seconded by Dr. Morgan, the following resolution was adopted :

Be it Resolved, That it is the sense of the Georgia State Board of Health that in the present state of knowledge the mosquito known as the *Stegomyia fasciata* is the only known means by which yellow fever can be transmitted, and that all efforts looking to the prevention of this disease be directed toward the extirmination of this mosquito.

The second meeting was called by the President to discuss the yellow fever situation. The Board met on Sept. 18th, 1905. The following are extracts from the minutes of this meeting :

On motion of Dr. Harbin, seconded by Dr. Hicks, the Secretary was instructed to make a report of all the orders and communications issued by the President and Secretary pertaining to the establishment of State quarantine against yellow fever under instructions issued by the State Board of Health at the meeting held Sept. 2d, 1905.

The following letters and orders were then submitted to the Board, only those of general interest being included in this report :

EXHIBIT 1-a.

SEPTEMBER 2, 1905.

Dr. J. P. Kennedy, Health Officer, Atlanta, Ga.

MY DEAR DOCTOR: I am instructed by the State Board of Health to transmit to you the following resolutions passed at their session to-day :

Resolved, That the State Board of Health of Georgia do hereby censure the Local Board of Health of Atlanta for not reporting promptly to the State Board of Health that there was a suspected case of yellow fever in Atlanta which had been sent to the detention camp, and further for not reporting immediately upon the confirmation of the diagnosis of yellow fever in the case of one Caruthers.

Be it further Resolved, That the Local Board of Health of Atlanta be notified that in future all suspicious cases must be reported promptly to the Secretary of the State Board of Health.

Very truly yours,
H. F. HARRIS,
Secretary Georgia State Board of Health.

EXHIBIT 1-b.

SEPTEMBER 6, 1905.

Dr. J. P. Kennedy, Health Officer, Atlanta, Ga.

MY DEAR SIR: On Sept. 2d the following resolution was passed by the State Board of Health:

"Resolved, That the Secretary be instructed to notify the Atlanta Board of Health that it is the sense of the State Board of Health that it should at once declare and institute quarantine against all points infected with yellow fever."

A copy of this resolution was duly served on you. No effort at compliance so far as the State Board of Health is advised has been taken by the municipal authorities of Atlanta to carry the same into effect. This is, therefore, to inform you if Atlanta, through its Board of Health, does not undertake to institute and enforce quarantine against points infected with yellow fever within twenty-four hours from this date the State Board will undertake the work at the expense of the municipality.

By order of the Board.

Yours very truly,
H. F. HARRIS,
Secretary Georgia State Board Health.

EXHIBIT 2.

SEPT. 6, 1905.

Hon. Jas. G. Woodward, Mayor, Atlanta, Ga.

MY DEAR SIR: On Sept. 2d the following resolution was passed by the State Board of Health:

"Resolved, That the Secretary be instructed to notify the Atlanta Board of Health that it is the sense of the State Board of Health that it should at once declare and institute quarantine against all points infected with yellow fever."

A copy of this resolution was served upon Dr. J. P. Kennedy, Health Officer. You, as Mayor, was also personally and officially advised of this action by the State Board of Health.

No effort at compliance, so far as the State Board of Health is advised, has been taken by the municipal authorities of Atlanta to carry the same into effect. This is, therefore, to inform you if Atlanta through its Board of Health does not undertake to institute and enforce quarantine against points infected with yellow fever within twenty-four hours from this date the State Board will undertake the work at the expense of the municipality.

BY ORDER OF THE BOARD.

Yours very truly,

H. F. HARRIS,
Sec'y Ga. State Board of Health.

EXHIBIT 3.

ATLANTA, GA., Sept. 7, 1905.

Office of the State Board of Health
of Georgia.

Whereas, information has reached the State Board of

Health of Georgia that yellow fever exists in various points outside of the limits of the State of Georgia ; and,

Whereas, the disease is highly infectious and persons coming from such infected points are liable to spread the contagion in Georgia thereby endangering the health and lives of the citizens of this State.

Wherefore, in pursuance of law and under the authority of law vested in the State Board of Health of Georgia, all persons resident in said infected territory or who have been in the infected territory within ten days are hereby warned and admonished that they will not be permitted to enter this State under penalty of the law, and the State Board of Health in pursuance of authority granted hereby requests and instructs all counties and municipalities in this State to aid in the enforcement of this quarantine.

BY ORDER OF THE BOARD.

W. F. WESTMORELAND,
President.

H. F. Harris, Secretary.

The preceding communications and the proclamation of State quarantine was met by the city authorities of Atlanta with open defiance. The State Board was curtly advised to attend to its own business, and the Mayor, backed by a majority of the Atlanta Board of Health, asserted that he would employ force in case the State Board of Health attempted quarantine. On one occasion the executive officer of the State Board of Health was called to a neighboring town for the purpose of making a post-mortem on a man who had died of a disease supposed to be yellow fever, and the authorities of the railroad running through this town very kindly stopped a through train in order to allow this officer to return to Atlanta that night. This unusual stop was observed by

some member of Atlanta's invitation committee—mis-called quarantine officer—who was aboard the train, and who immediately telegraphed the fact to the Atlanta authorities. When the train reached the terminal station in Atlanta, the Mayor was present with a number of policemen with the avowed intention of forcibly interfering with any quarantine that the State officer might be attempting to carry out. At a later time when the quarantine was put into effect the Mayor of Atlanta attempted on a number of occasions to board trains and to remove from them quarantine officers appointed by the State Board of Health, and open violence was only prevented by obtaining an order from the Superior Court of this circuit directing the city of Atlanta to cease its interference.

Attention is respectfully directed to the fact that the mooted question as to the powers of the State Board of Health was never settled, as the Supreme Court of this State dissolved the order of the inferior court on a technicality. As matters stand a repetition of the disgraceful wrangle of this year may at any time be repeated by any municipality in the State where the local officers elect.

It would be, perhaps, impossible to offer a clearer or more forceful argument than the foregoing concerning the necessity of giving the State Board of Health authority commensurate with its proposed field of activity. We here find the government of the city of Atlanta not only declining to obey the instructions of the State Board of Health, but utterly disregarding the knowledge that has been gained concerning yellow fever at the expenditure of so much life and treasure. Furthermore, on numerous occasions the mayor of the city of Atlanta proposed by force to nullify the endeavors of the State Board of Health to ward off this terrible

disease from the citizens of the State of Georgia. The authorities of this city, with criminal indifference to the well-being of the rest of the State, insisted on permitting people to come from the infected districts into Atlanta, notwithstanding the fact that if they once succeeded in getting into Georgia it would have been impossible to prevent them from going to all parts of the commonwealth unprotected by the most rigid quarantine. If this open defiance of the laws of the State and reckless disregard of the health of the people at large had not been restrained by an order of a Judge of the Superior Court, there can be but little question that persons infected with yellow fever would have gained entrance to small communities, where from lack of sufficient funds quarantine was not enforced. A striking illustration of what might have been was shown by the fact that the one individual who developed yellow fever in Atlanta was at that time on his way to Valdosta, and had he been taken ill a day later would have been in that city. Perhaps the most enthusiastic advocate of the city government of Atlanta ruling the State would hardly claim that yellow fever would not develop in and around Valdosta.

It is the hope of the Board that the General Assembly in its wisdom will see fit to prevent a repetition of this disgraceful and unseemly state of affairs.

**Circulars issued by the State Board of Health
in connection with the subject of the public
health.**

CIRCULAR I.

VACCINATION.

The unfortunate results that sometimes follow vaccination have produced a much greater effect upon the public mind than their importance warrants, and as a consequence a very strong sentiment has been aroused against this practice in some localities. It should be the duty of all health officers to attempt to remove prejudices of this kind as far as lie in their power, both by explaining the incalculable benefits to mankind that have been the result of vaccination, and at the same time by taking proper precautions to prevent the occurrence of bad results. Every care, then, should be exercised by the physician doing vaccination, not only on account of the safety of the individual directly operated upon, but with the object of removing ignorant prejudices concerning this most important of all preventives. It should also be borne in mind—however severe the resulting local and constitutional symptoms may be—that protection from small-pox does not follow, as a rule, where infection occurs, and under such circumstances the individual should be again vaccinated at the earliest possible moment consistent with safety.

Vaccination should always be done with virus taken from the cow, and it should be as fresh as possible. Glycerinated virus is to be preferred, as when it is prepared in this way all of the usual germs that produce blood poisoning are quickly killed, and the probability of infection following is, as a consequence, very slight.

Any part of the body may be selected for introducing the virus, but it is almost universally the practice to make the inoculation into the arm, though the leg is also oftentimes selected for this purpose. Whatever part be chosen, it should be thoroughly washed with soap and hot water, and following this with fifty per cent. alcohol, which should be allowed to dry of itself, and not be wiped off. The knife used for scarifying the parts should be one employed only for the purpose of vaccination, and before being used should be thoroughly cleansed by washing in some antiseptic solution, or by being placed in boiling water; when an antiseptic has been used upon the knife it must always be afterwards rinsed in boiling water, or water that has been recently boiled. It is much better when the vaccine virus comes on bone points, not to use a knife at all, but to scrape the parts with the point until the upper layers of the epidermis have been rubbed away, thus permitting the entrance of the virus. In either case the parts should be thoroughly dry before the operation is attempted. When a knife is used it should be the aim of the operator to scarify very lightly, it being essential to stop just before bringing blood. This precaution can not be too strongly impressed, since blood flowing from the parts washes away the virus in a greater or less degree, and infection with the cocci of suppuration, and subsequently blood-poisoning, is much more apt to result. Much of the disrepute into which vaccination has fallen is due to neglect on the part of physicians to take this precaution in vaccinating, and we should therefore keep in mind that not only is there much greater danger to the individual upon whom the operation is performed when the incisions are made too deeply, but that the bad results that follow are ignorantly ascribed to vaccination. It is of great importance that at the first vaccination the virus be intro-

duced in at least three different places. After the arm has been scarified the virus is rubbed in with the knife, or with the vaccine point; if the virus be dry the point should be dipped into tepid water before being applied. The virus having been thoroughly rubbed into the part it is left uncovered until dry, after which a few layers of sterilized gauze or cotton are placed over the wound, and if there be erysipelas in the neighborhood it is best to use antiseptic gauze.

More than one person should not be vaccinated from a single point.

On the third day following the vaccination where it proceeds in a normal way a papule may be seen at the site of the inoculation, surrounded by a reddish zone. On the fifth or sixth day this papule is changed into a distinct vesicle, the center of which is depressed while the margins are elevated. The vesicle attains its maximum size on the eighth day. About the tenth day its contents become purulent, and the lesion is surrounded by an extensive areola. On the eleventh or twelfth day the local symptoms begin to subside, and the lymph within the vesicle is converted into a brownish scab which gradually becomes dry and hard, and falls off from the twenty-first to the twenty-fifth day, leaving a circular pitted scar. Constitutional symptoms of a more or less severe kind are not unusual following vaccination. The temperature usually rises on the third or fourth day, and not uncommonly continues elevated until the eighth or ninth day.

A successful vaccination usually confers immunity to smallpox throughout life, but it often happens that in the course of years its protecting power is lost. As it is impossible otherwise to determine whether or not this has occurred, all persons exposed to smallpox, and those living in communities where the disease is epidemic,

should be at once vaccinated; it will "take" only on those who need it. As a general rule it is wise for persons to be vaccinated every six or eight years.

No period of life from infancy to extreme old age contraindicates vaccination.

It can not be too strongly impressed that when very large ulcers form and extensive inflammatory phenomena follow vaccination the case is really one of blood-poisoning, and that protection from smallpox does not result.

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CIRCULAR 2.

DISINFECTION FOLLOWING SMALLPOX AND
OTHER INFECTIOUS DISEASES.

The methods commonly in vogue for the disinfection of clothing and houses following infectious diseases are totally inadequate—both for the reason that proper disinfectants are not employed, and even where active agents are used no allowance is, as a rule, made for the great variation in the amount of space to be disinfected. It is a common error that the fumes of burning sulphur are efficient for this purpose—a mistake that is responsible for no little of the failure to eradicate infectious diseases. It is likewise true that none of the candles or other articles on the market for this purpose are reliable—the basis of many being sulphur, while others are inactive for the reason that they do not contain enough of the disinfectant. Numerous experiments have shown that of all the available bactericidal agents formaldehyde gas is the best, and the easiest and most reliable way to obtain it is from the substance commercially known as “formalin;” when the gas is obtained from this substance it is more-over possible to accurately gauge the amount employed. Disinfection of clothing, furniture and houses with this substance is carried out as follows:

The room to be disinfected must be made as tight as possible—the chimney must be closed, and all cracks covered over with strips of paper smeared with paste; particular pains must be taken that all cracks over and around windows be properly closed. All furniture to be disinfected is then placed in the room, and clothing should be hung up as high as possible. The measurements of the

room are taken,* and two and one-half ounces of formalin to each hundred cubic feet of air space in the room is then placed in a pan, or other suitable vessel, an equal quantity of water added, and the mixture placed on a gas or oil stove; if oil be used the stove must contain sufficient fuel to burn at least three hours—this being the time usually required for all of the disinfectant to evaporate. The fire in the stove is then lighted, the door of the room closed and the cracks covered over with strips of paper and paste. The room should not be opened under twelve hours. After this time or longer has elapsed the room is opened, and thoroughly aired. In instances where the room can be made tight all bacteria are killed where the procedure as just described is carefully carried out. Where this can not be done it is impossible to thoroughly disinfect a room—still some good can undoubtedly be accomplished by making the attempt.

Where the room can not be properly sealed all contaminated clothing must be boiled, and that which can not be treated in this way should be burned. The floors and walls should be washed with some antiseptic solution, such as a 1-1000 solution of mercury bichloride, a 5 per cent. solution of carbolic acid, or a 3 per cent. solution of creosol. Furniture should be treated in the same way. The room should then be aired for at least a week.

NOTE.—There are a large number of proprietary “disinfectants,” so called, in the market. Most of them are simply deodorizers or antiseptics, of perhaps some value to stop a stink, but are entirely untrustworthy for disinfectant purposes and far more costly than the agents above mentioned.

*The cubic area of a room is easily calculated, it being only necessary to multiply together its three dimensions, thus: A room that is ten feet wide, ten feet long and ten feet high has a cubic area of one thousand feet.

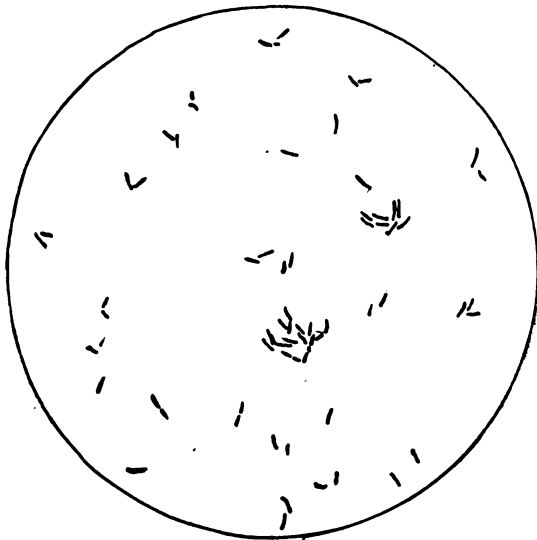
CIRCULAR 3.

MEMORANDUM ON TYPHOID FEVER.

CIRCULAR ISSUED BY THE STATE BOARD OF HEALTH OF
GEORGIA.

TO THE PEOPLE OF GEORGIA:

Of all of the infectious diseases prevalent in Georgia,



TYPHOID BACILLI.

typhoid fever is one of the most common and fatal. As a result of its ravages a vast amount of invalidism, suffering and financial loss is brought about each year, and, although we possess no statistics, it is highly probable that more than a thousand deaths are occasioned annually as a result of this malady. It has for some time been recognized that typhoid fever is among the most preventable of all diseases, and if our people would bestir themselves and carry out the comparatively simple rules that are necessary for its prevention, the affection would, in a short

time, practically cease to exist among us. Recognizing these facts, the Georgia State Board of Health issues the following circular with the hope that it may assist in educating our people concerning the true character of the disease, and point out to them the measures necessary to prevent its continuance and further spread:

1. CHARACTER OF THE DISEASE.—Typhoid fever, enteric fever, or abdominal typhus, is an infectious disease believed to be caused by a specific germ known as the *Bacillus typhosus*, which is a low form of vegetable life belonging to the group of bacteria.

2. COURSE OF THE DISEASE.—Typhoid fever develops, as a rule, quite slowly, the first symptoms being loss of appetite, headache, and a marked fatigue on slight exertion. These symptoms gradually grow worse, fever develops, and the patient oftentimes suffers with chilly sensations; the temperature gradually rises, and in the course of from a few days to a week reaches a height of 102° , 103° , 104° , or 105° F. In many cases no symptoms exist that indicate trouble with the bowels, but in the severe forms of the disease diarrhea generally comes on during the first week and continues throughout the course of the disease.

During the second week the symptoms above detailed continue, becoming often more severe, and there develops great nervousness and delirium. About this time there are frequently observed over the chest, abdomen and thighs minute reddish spots resembling flea-bites; these spots last for a few days and then pass away and are followed by a fresh crop in other situations. During this period of the disease inflammation of the bronchial tubes frequently comes on, and now and then pneumonia develops. Bleeding from the bowels is an occasional symptom in the

second week of the disease, and is highly characteristic of it.

When the disease follows a normal course, the symptoms during the third week begin gradually to abate; the fever lessens, the diarrhea becomes better, the nervous symptoms and delirium diminish, and the patient, though much emaciated, gradually returns to a normal condition.

Unfortunately, however, the disease does not always pursue this favorable course, for, in quite a proportion of instances, the symptoms increase in severity during the second or third week, the patient becomes profoundly prostrated, the delirium deepens, and death occurs. The hemorrhage from the bowels, in some instances, is so severe that death is produced, even in comparatively early stages of the affection.

In many instances, through indiscretion, usually as a result of eating solid food, patients who are apparently on the road to rapid recovery relapse, and the disease repeats the course already detailed.

It is of importance to remember that now and then so-called walking cases of typhoid fever occur, the disease in these instances being characterized by the fact that the symptoms are so slight that the sufferer does not feel it necessary to go to bed. However, in these mild cases, fatal hemorrhage from the bowels is quite as frequent as in the severer types, and as a consequence the patient should receive careful attention. Moreover, it is of importance to remember that from this mild form of the affection the most malignant varieties of the disease may be contracted.

The mortality in typhoid fever varies from five to twenty per cent., depending upon the character of the disease and the nature of the nursing and treatment that the patient receives.

3. TREATMENT OF THE DISEASE.—As soon as the symptoms already detailed appear, a physician should be called and his directions faithfully and carefully followed out. Nothing in this disease is of more importance than careful nursing, and it is absolutely necessary that the patient receive only liquid diet until the physician permits other food.

4. MODES OF INFECTION.—It is clear that typhoid fever is the result of the entrance into the body of some minute form of germ life, whether this be the bacterium generally supposed to induce the disease or not. This contagion is beyond question a living something which multiplies with great rapidity under proper conditions, and, escaping from the bodies of those infected with the disease, in one way or another, reaches other individuals. It is beyond question true that the virus passes from the body of those infected by means of the urine and feces, and it is likely that the secretions from the mouth and nose frequently contain the germs that cause the fever.

As the germs are certainly extraordinarily minute, a very small amount of any of these excretions might produce the disease in healthy individuals if it were to get into their bodies through water, milk, or any uncooked food, or if it were to find lodgment about the nose or mouth, or get upon the hands of other persons. It should also be remembered that the virus may easily get upon cooking-utensils, drinking-cups, bed-linen, and other articles with which we are constantly brought into close contact, and that the disease might be transmitted in this way. It is also true that the malady may be carried from place to place by insects, particularly flies; the latter may readily get enough infectious material upon their legs in various ways, and then, crawling over food, leave the deadly poison deposited upon it.

5. ISOLATION OF PATIENTS.—Wherever possible, patients with typhoid fever should be completely isolated, since, if this is not done, other members of the family are almost sure to contract the malady—a result which almost every one has seen who has had any experience with the disease. Wherever possible patients should be sent to a hospital, but where this can not be done they should be placed in an outhouse, if practicable; or, where this is not possible, in an isolated room, which should be thoroughly disinfected after the patient's recovery. No one should visit a typhoid fever patient, except when compelled to do so, and we should be particularly careful to prevent children from coming in contact with them, as it has been shown that they contract the disease much more readily than grown people. It is also of importance that persons should not, unless compelled, sit for any length of time in the room with a person suffering from typhoid fever, and, above all, under no circumstances should cooking and eating be done in the sick chamber.

The room in which the patient is placed should be furnished only with those things absolutely necessary, and it is particularly desirable that carpets and curtains should be removed. It is well to wash the floor each day with some antiseptic solution.

Those persons who come in contact with typhoid fever patients should wear outer clothing which can be easily washed and boiled. After touching the patient, or any of his clothing, the hands should be at once thoroughly scrubbed in an antiseptic solution. Of course, under no circumstances, should the nurse eat or drink from the same vessels that the patient does.

6. REMOVAL OF EVACUATIONS.—None of the excretions from persons afflicted with typhoid fever should ever be emptied until thoroughly disinfected, and under no cir-

circumstances should these be poured out in the neighborhood of springs or wells. Towels, handkerchiefs, and clothing that come in contact with the patient should be thoroughly disinfected before being sent to the laundry. It should also be remembered that the water in which typhoid fever patients are bathed necessarily becomes infected, and this should always be thoroughly disinfected before being emptied out.

These precautions should be carried out for some time after the patient has recovered, as it is well known that persons, under such circumstances, for some time frequently contain the poison in their evacuations.

7. DISINFECTION.—All clothing that comes in contact with the typhoid fever patient should be thoroughly disinfected. This is best accomplished by thorough boiling, but in cases where this can not be at once carried out, it is advisable to use some chemical antiseptic; of these, perhaps the best is creo-carboline, which may be employed in a 1-500 solution in water; where this substance is not obtainable, a 5 per cent. solution of carbolic acid in water, or a 1-1000 aqueous solution of corrosive sublimate may be employed. The floors should be daily washed with one of these solutions.

The excretions from the patient should be placed in a 1-500 creo-carboline solution, or in a mixture prepared by adding four heaping tablespoonsful of fresh pulverized chloride of lime to a quart of water. Either of these solutions are efficient, when allowed to act for half an hour.

The water in which the patient is bathed should likewise be disinfected, either by the addition of an ounce of creo-carboline, or four tablespoonsful of chloride of lime; disinfection will be brought about in half an hour, when these directions are followed.

The hands of those coming in contact with the patient

should likewise be thoroughly disinfected, either with a solution of carbolic acid, corrosive sublimate, or creo-carboline, in the strength employed in disinfecting the evacuations.

After the patient recovers, the room should be disinfected with formaldehyde gas obtained from the substance known as "formalin." In a previous circular directions have been given for carrying out disinfection in this way, so that it is scarcely necessary to repeat them here. We would only direct attention to the fact that by a new process the gas may be obtained from the formalin without the use of heat in the following manner: When everything is ready, and the room properly sealed, thirteen ounces of permanganate of potash to each quart of formalin are placed in a large vessel, the room being closed immediately after the two substances are put together; *it is important that the permanganate be placed in the vessel first.* When this method is employed a quart of formalin should be used to each one thousand cubic feet of air-space in the room. As the gas, by this process, comes off with great rapidity, it is not necessary to keep the room closed so long as is the case when the older method is employed—experiments having shown that complete disinfection is brought about in four hours. This method is to be advised for the reason that it acts more quickly than the older one, and there is never danger of fire.

In cases where houses are too open to permit of disinfection by means of gas, the sick-chamber should be thoroughly washed with one of the antiseptics employed for sterilizing the clothing after the manner described in our previous circular on disinfection.

CIRCULAR 4.

MEMORANDUM ON HOOK-WORM DISEASE.

CIRCULAR ISSUED BY THE STATE BOARD OF HEALTH OF
GEORGIA.

TO THE PEOPLE OF GEORGIA:

It has been only recently recognized that a large percentage of the invalidism and a great number of deaths are yearly caused in this State by a very small intestinal parasite known as the *Uncinaria americana*, or hook-worm. This parasite has unquestionably existed in all of the southern portions of the United States since its first settlement by the whites, and beyond doubt is a heritage left us by the former owners of the soil. This hook-worm disease is probably the most common of all the serious diseases prevalent in Georgia, and as it is easily curable and can be readily prevented, there is no matter which should be of greater interest to our people.

I. CHARACTER OF THE DISEASE.—Hook-worm disease is an affection caused by a small animal parasite which closely resembles, when superficially viewed, the common pin-worm which so often occurs in children. The female, which is larger than the male, measures somewhat more than half an inch in length, and has a breadth equal to that of an ordinary knitting-needle; the male is between a quarter and three-eighths of an inch in length as a rule. The parasite possesses around its mouth a row of minute plates somewhat resembling hooklets, by means of which it grasps hold of the mucous membrane of the intestine and bruises it sufficiently to cause the blood to flow; with this blood the parasite nourishes itself. At the same time the worm injects into the tissues a poison which has much to do with the symptoms that occur in the disease that it

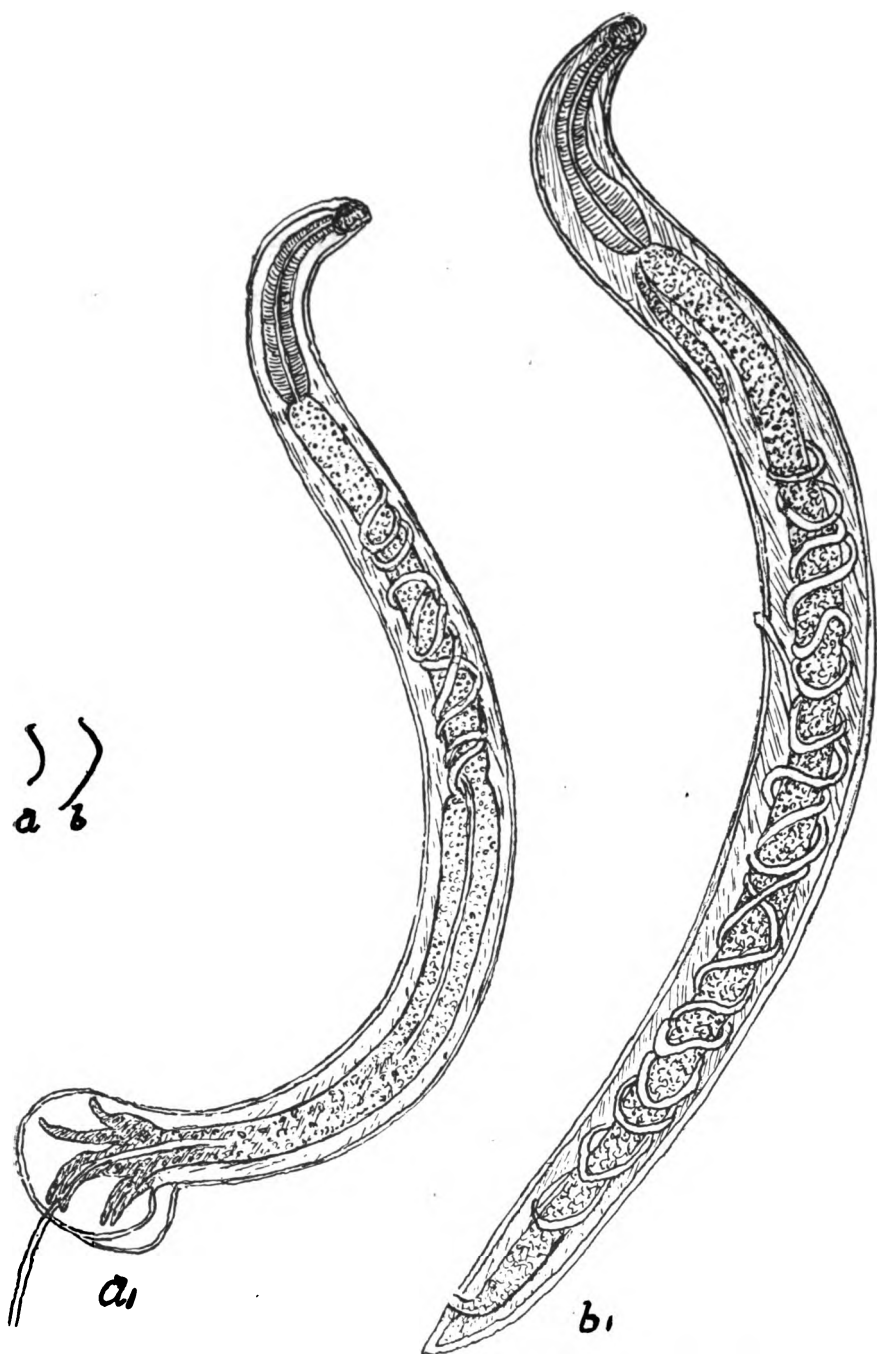


FIG. 1. a, Male uncinaria, natural size; a1, male uncinaria, greatly magnified; b, female uncinaria, natural size; b1, female uncinaria, greatly magnified.

produces. These worms are usually present in great numbers, there being as a rule from 500 to 2,000 of them, and as they unquestionably live at least eight or ten years, the unfortunate victim suffers for a long period of time as a result of their presence. While living in the intestines the females lay enormous numbers of eggs which pass out with

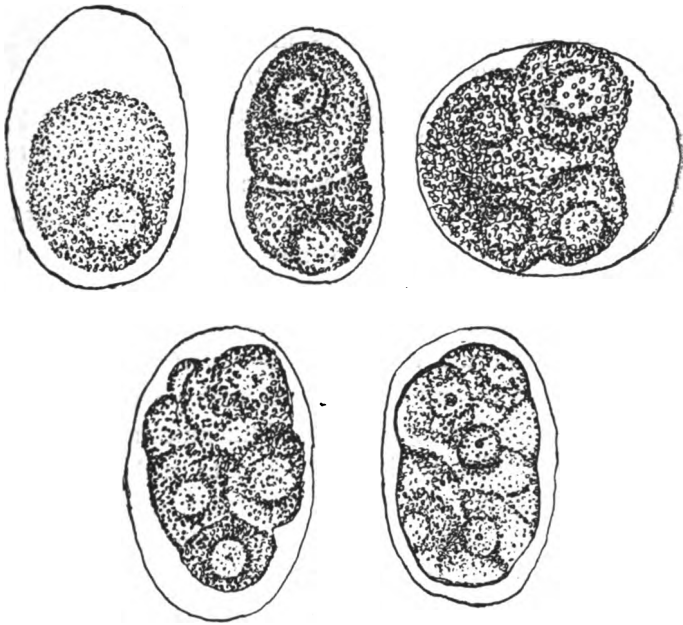


FIG. 2. Eggs of the uncinariid, the contents showing varying stages of development. Zeiss E, Oc. 4.

the feces, and under suitable conditions of temperature and moisture there develops within them within from two to three days minute snake-like embryo which bursts through the shell of the egg and pass into the neighboring earth; here they live for considerable periods of time, and, ultimately, may infect other individuals, or those from whom the eggs were passed. There are at least two ways by

which these embryo gain entrance into the human body, one of them being through getting into drinking-water and being swallowed, and, much more extraordinarily, it has been clearly shown that they most frequently penetrate into the human body through the skin. When the latter happens the parasite, in passing through the skin, produces the disease known as "ground-itch." The vast majority of the victims of this affection are children with whose skin the embryo comes in contact while they go barefooted during the summer months.

In Figure 1 the male and the female worms are pictured in their natural size, and there are also drawings showing how they appear when magnified.

2. COURSE OF THE DISEASE.—As has been before stated, in the vast majority of instances this infection begins as ground-itch, the latter condition being produced by the embryo of the worm as it passes through the skin. By a circuitous route, the various stages of which it is not necessary here to enter into, these embryo finally reach the intestines, and grasping hold of the mucous membrane with their saw-like teeth they begin to suck blood and grow until they reach the size of the adult worm in about a month or six weeks. Depending upon the number which have gained entrance and the susceptibility of the individual, there now begins to develop symptoms of profound anemia; the skin of the child becomes very pale and assumes a sort of yellowish hue, and in cases where there is a severe infection, the victim begins to suffer with shortness of breath and dropsy. When this occurs the patient sometimes dies, but more commonly death results from contracting some other disease which, under ordinary conditions, would produce no serious results. One of the most unfortunate effects of this malady is that when children become infected they cease to grow, and frequently

retain the appearance of early youth even after they have reached full maturity in years. These unfortunates are generally incorrectly regarded as dirt-eaters. The symptoms frequently last over a period of many years, as in the intestines of these victims the worms that originally infect them live certainly eight or ten years, and during this period it is beyond question true that additions to the original number are frequently received.

3. DIAGNOSIS.—There is no disease that can be diagnosed with more ease and certainty; the eggs which are shown in Figure 2 are present in the feces in great numbers, and by means of a microscope they can always be detected with certainty. At the Laboratory of the Georgia State Board of Health, in the Capitol at Atlanta, every arrangement has been made for carrying out examinations for this disease, and reports of the results, free of cost, will gladly be made to any one desiring them. It is only necessary to place about a half-teaspoonful of the feces in a tightly corked bottle and mail the same, properly packed, to the Laboratory.

4. TREATMENT OF THE DISEASE.—Whenever an individual shows the symptoms above detailed, an intelligent physician should be at once called. We have medicines that act as specifics, and the disease can always be cured in a very short period of time.

5. PROPHYLAXIS.—Of course the best method of preventing this disease is to administer to those already infected the proper medicines and cause the expulsion from the intestines of the worms that lay the eggs. Around houses where individuals have lived who have had the disease every care should be taken to prevent contact with the earth in the neighborhood of places where the ground might have become infected. It would be advisable for children and others to wear shoes for at least a year after

the last individual having the disease was cured, and as a precautionary measure it should be insisted upon that properly located water-closets should be at every house, and that they should be used by every one in whom there is a possibility that the disease exists. The indiscriminate scattering of the feces around the stables, so very common in many districts, should be absolutely forbidden.

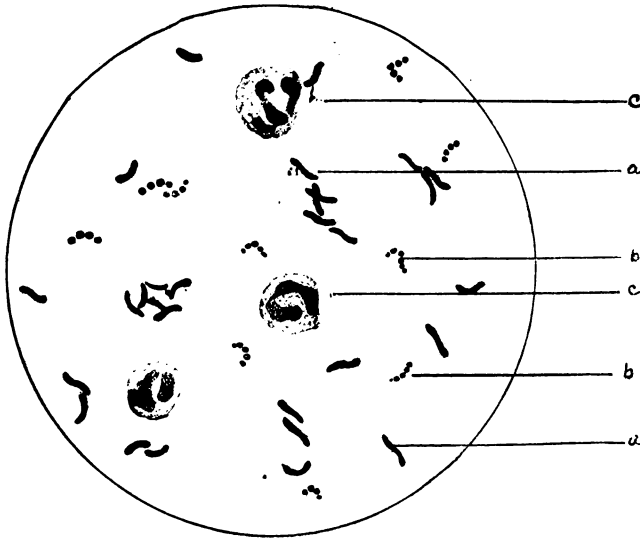
CIRCULAR 5.

MEMORANDUM ON TUBERCULOSIS.

CIRCULAR ISSUED BY THE STATE BOARD OF HEALTH OF
GEORGIA.

TO THE PEOPLE OF GEORGIA:

Of all the enemies of mankind, tuberculosis, in its various forms, takes the first rank. An affection of protean manifestations, occurring in almost every part of the body



a, Tubercle bacilla; b, cocci that cause pus; c, pus cells.

and producing disease of the brain, of the nerves, of the bones, of the skin, and of all of the internal organs—pre-eminent among which is the terrible malady we call consumption, which is tuberculosis of the lungs. It has been estimated that one-seventh of all the people born into the world die as a result of this malady in some one of its various forms, and it is probable that one person out of every

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I. CHARACTER OF THE DISEASE.—Tuberculosis is produced by a minute vegetable parasite known as the *Bacillus tuberculosis*, a germ which not only occurs in the human being, but is widely distributed among the lower animals.

Tuberculosis of the lungs generally comes on insidiously, there being usually no definite period from which the sufferer can date the onset of the malady. In the early stages there is usually loss of appetite and a pronounced feeling of weakness followed by a slight cough; the latter symptom frequently leads patients to erroneously believe that their trouble began with a bad cold, when, as a matter of fact, the catarrhal trouble of the throat and bronchial tubes was originally produced by the germs of tuber-

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culosis—there being no such thing as a cold changing into consumption. As the disease progresses the patient complains of fever and chills, these symptoms being oftentimes periodical, and lead to the belief that the trouble is malarial fever; this mistake is very common, and whenever such symptoms appear a good physician should be immediately consulted. The patient also suffers from exhausting night sweats in many instances, though this is not invariable. A rapid loss of flesh is one of the earliest and most common symptoms of tuberculosis, and whenever this is observed a physician should be at once consulted. The symptoms above enumerated continue and grow worse, and in quite a proportion of the cases there is, in addition, spitting up blood, which in some instances may be so pronounced that it becomes a distinct hemorrhage. In the more rapid forms of the disease the patient frequently dies within a few weeks or a month or so, while in the less severe types the malady may persist for many years before death occurs.

3. TREATMENT OF THE DISEASE.—The treatment of tuberculosis by drugs has proven an entire failure, but recent investigations have shown that a large number of persons afflicted with this disease will recover, if placed under proper hygienic conditions. The patient should be put in a tent, whether it be winter or summer, and kept in bed at absolute rest as long as there is any fever, and should be fed in abundance with good, wholesome food. While this treatment appears simple, it should always be carried out under the directions of a physician, as it is only possible for those having a thorough knowledge of the subject to give such directions as would lead to a rapid cure of the patient.

4. MODES OF INFECTION.—Hereditary tuberculosis,

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notwithstanding the popular idea to the contrary, is very rare, but there is no question that those persons in whose family tuberculosis exists are much more prone to contract the disease than others.

In just what manner the germ of consumption gains entrance to the human body, we are more or less uncertain, but there are reasons for the belief that in many instances they pass in by means of the inhaled air; there is no doubt that in a small percentage of cases the bacillus gains entrance to the body through an abrasion of the skin or of some mucous membrane; finally the bacteria are unquestionably often taken in with the foods that we eat, or by putting objects upon which the germs are present into the mouth, or eating with hands which have been contaminated and not washed. Of the foods that contain the germs of consumption, milk is unquestionably the most common, as there can be no question that fully 25 per cent. of our cows have this disease, and under such circumstances their milk is usually infected with the bacillus that produces the malady; meats, likewise, often contain germs of this disease, but, as they are usually cooked no harm, as a rule, results.

Of quite as much importance, as the introduction of the germ into the body is the resisting power of the individual at the time when this occurs, since it is unquestionably true that the disease can make no progress without the tissues have become susceptible through lowered resistance. All things then that have the effect of lowering the vitality of the body act as predisposing causes to consumption; such, for example, as WANT OF PROPER FOOD, LACK OF SLEEP, IMPROPER CLOTHING IN COLD AND WET WEATHER, AND LIVING IN DAMP AND IMPROPERLY VENTILATED HOUSES; ex-

cesses, PARTICULARLY THE TAKING OF ALCOHOL, conduce to the development of the disease—LONG-CONTINUED INEBRIETY BEING BEYOND DOUBT THE CAUSE THAT MOST FREQUENTLY LEADS TO CONSUMPTION. It is a common error that alcoholic stimulants tend to ward off consumption, and it is highly probable that these substances not only do not act in a curative way on those who have already contracted the disease, but are positively detrimental. In order then to avoid consumption—and this is particularly of importance for those in whose family there is a predisposition to the disease—the individual should live soberly, should try at all times to obtain a reasonable amount of GOOD FOOD, should SLEEP A SUFFICIENT NUMBER OF HOURS, and should be CLOTHED PROPERLY, particularly in the winter. Those who devote their time and energy to the performance of their work—being careful of course not to labor excessively—are much more apt to escape consumption than those who do otherwise. It is particularly of importance that those who have a tendency towards consumption should early learn, and throughout life practice, the habit of BREATHING THROUGH THE NOSE; if this rule be followed there is no question but that a large percentage not only of the germs of consumption, but other bacteria as well, are filtered out during their passage through the nose and do not reach the lung substance. CLEANLINESS is also of importance—a bath taken each morning in moderately cold water being conducive to health, not only as regards consumption, but other diseases as well. It is of course necessary that DWELLING HOUSES SHOULD BE KEPT THOROUGHLY CLEAN.

5. **ADVICE TO DISEASED PERSONS.**—In all cases where a person observes in himself, or in those for whom he is responsible, the symptoms already detailed it is his duty to at once consult an intelligent physician, and if it be found that tuberculosis is present, every precaution should be taken by the diseased individual to prevent the further spread of the malady. IN SUCH INSTANCES THE SPUTUM THAT IS CONSTANTLY BEING COUGHED UP CONTAINS MYRIADS OF THE GERMS, and it is of the utmost importance in order to prevent other persons in the neighborhood from being infected that the SPUTUM BE DESTROYED. The patient should at all times carry about with him either a small receptacle into which the sputum can be expectorated, or a large cloth which would answer the same purpose, and in either case the sputum should be burned; if this be impracticable, it should be placed in a solution of some good antiseptic, such as a saturated solution of carbolic acid, or a 1 to 1000 solution of corrosive sublimate in water. The patient's handkerchiefs should be thoroughly boiled, and his clothing should receive like treatment. Every precaution should at all times be observed in order to prevent the sputum getting onto the furniture or floors, as, under such circumstances, it quickly dries and being broken up into small particles is carried by means of the air to other parts of the house.

The patient should always remember that the quicker he is placed under proper treatment the more the chances of ultimate recovery; in the early stages almost all of the cases of this kind are curable, but later this is not often accomplished.

N. B.—THE STATE BOARD OF HEALTH PARTICULARLY WISHES TO DIRECT ATTENTION TO THE FACT THAT EXAMINATIONS FOR

THE GERM OF CONSUMPTION ARE MADE AT ITS LABORATORY IN ATLANTA, FREE OF ALL COST, AND REPORTS PROMPTLY SENT TO ANY ONE DESIRING THEM. THE SPUTUM SHOULD BE PLACED IN A BOTTLE, AND THEN, AFTER BEING PROPERLY PACKED IN A SMALL CASE, ADDRESSED TO DR. H. F. HARRIS, SECRETARY STATE BOARD OF HEALTH, ATLANTA, GEORGIA. PACKAGES SHOULD BE SENT BY MAIL, WHENEVER POSSIBLE, AS THEY COME MUCH MORE PROMPTLY THAN WHEN SHIPPED BY EXPRESS. THE NAME OF THE SENDER SHOULD ALWAYS BE ON THE PACKAGE.

CIRCULAR 6.

MEMORANDUM ON MALARIA FEVER.

CIRCULAR ISSUED BY THE STATE BOARD OF HEALTH OF
GEORGIA.

TO THE PEOPLE OF GEORGIA:

Malaria, in its various manifestations, has ever constituted the principal obstacle to the civilization of all

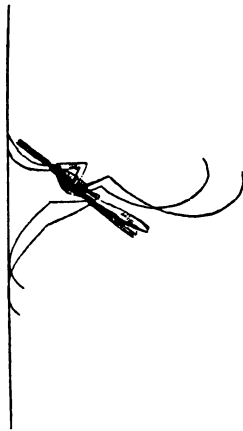


Fig. 1.
ANOPHELES.
(Malarial Mosquito.)



Fig. 2.
CULEX.
(Common Mosquito.)

(It will be observed that the body of the malarial mosquito is almost straight and sticks out from the surface on which it sits; the body of the common mosquito makes an angle and both beak and tail point toward the surface to which it is attached.)

tropical and semi-tropical countries, and as a consequence vast tracts of the richest and fairest portions of the world have remained uncultivated and unredeemed from their primitive savage state; although it can not be said that this condition of affairs applies to Georgia, it is, nevertheless, true that the prevalence of this disease in some portions of the State has been a serious drawback to the development of the regions in which the disease prevails,

and the State Board of Health feels that one of its principal missions should be to remedy this condition as far as it lies within its power. Recent investigations have shown beyond the shadow of a doubt that this disease can be easily prevented if the matter is taken up intelligently, and we therefore issue this circular, confident that it will be of much benefit to the people of our State.

1. CHARACTER OF THE DISEASE.—Malaria is a disease produced by a parasite belonging to the very lowest order of animal life which is commonly known as the *Plasmodium malarie*; it is conveyed from man to man by that genus of mosquitoes called the *Anopheles*. The parasite attacks and destroys the red cells of the blood, and produces a poison that causes the symptoms characteristic of malaria.

2. COURSE OF THE DISEASE.—It would be entirely out of the question and, indeed, useless to attempt in this short paper a full description of the symptoms produced by malaria—our restricted space only permitting a brief reference to the more common manifestations of the affection.

The most common and well-recognized symptoms of malaria are those that occur in that variety of the disease which is known as malarial or intermittent fever. In this type of the malady the patient—who may or may not have at intervals for some days noticed chilly sensations, a feeling of fullness in the head, and general bodily depression—is suddenly seized with a chill, followed by a high fever and subsequent profuse perspiration; after these symptoms subside, which generally requires several hours, the patient returns to a practically normal condition and feels, on the whole, well until the next attack occurs. These chills and fever paroxysms occur at various intervals, de-

pending upon the character of the parasite inducing them—the most common form in Georgia being perhaps that which produces a chill every other day.

In some instances the malady comes on more insidiously, there being no marked chills, and the temperature remaining constantly above the normal; this type of the disease is oftentimes known as bilious, remittent, or continued fever.

In the more chronic forms of the disease the unfortunate victim is frequently subjected for years to attacks of fever coming on at irregular intervals—the patient being more or less of an invalid throughout the course of the disease.

In other instances the brain becomes affected, producing very alarming symptoms, and in quite a proportion of cases the malady ultimately terminates in chronic Bright's disease.

3. TREATMENT OF THE DISEASE.—Most fortunately, we have in quinine, when properly administered, a medicine that in practically all instances acts as a specific in this affection; it is not, however, advisable to prescribe the drug indiscriminately, but it should be used only on the advice and under the directions of a physician. In the more chronic forms of the disease, combinations of arsenic, with such tonics as nux vomica, iron, and small doses of some of the preparations of mercury, produce permanent cures where quinine has failed. It is of the utmost importance that attention be given to the treatment, as, so long as the patient remains with the parasites in his blood, so long is he a menace to his friends and neighbors.

4. MODE OF INFECTION.—The most brilliant triumph in modern medicine, and one of the most creditable achievements of human ingenuity, has been the absolute demonstration that malaria is carried from man to man by means of the *Anopheles* mosquito, and that the disease can, in

nature, be produced in absolutely no other way. This is not a theory, but it is a fact which has been demonstrated in its every detail beyond dispute, and we are now happily in a condition to reject our venerable theories concerning bad air, miasm, etc.

Before describing the method by which infection takes place, it is well to say a few words concerning the mosquito that acts as a carrier of the disease, which may be easily differentiated from other similar gnats. The malarial mosquito, as shown in Figure 1, has a body which is placed parallel to and almost on the same plane with the front portions of the insect, and, as a consequence, when at rest on walls or other objects, the back portion sticks out almost or quite at right angles with the surface upon which it is resting. The back portion of the common mosquito forms an angle with the front part of the mosquito's body, with the effect that both ends of the mosquito point toward the object upon which it rests (Fig. 2). There are still other differences that clearly differentiate the malarial from the common mosquito, but the one given ordinarily serves to distinguish between them. The malarial mosquito is pre-eminently a house gnat, being scarcely ever seen in the woods or open, but may be found—oftentimes in great numbers—in all malarial localities, lying quietly during the day in dark corners of rooms or stables. This mosquito practically never bites in the day, but will do so in a darkened room, if a person will remain perfectly quiet; their favorite time for feeding is in the early parts of the night and about daybreak—all of which accounts for the fact long observed that malarial fever is almost invariably contracted at night. The malarial mosquito bites and then goes back to some dark corner where it remains quiescent for forty-eight hours, at the end of which time it again descends to feed. Con-

trary to the general opinion mosquitoes bite many times, and frequently remain alive for months—the malarial mosquito particularly living in cellars and attics oftentimes throughout the entire winter. If one of these mosquitoes bite a person with malaria, the parasites are sucked in along with the blood and pass into the stomach of the gnat, making their way ultimately into the body substance; here the parasites undergo a series of multiplications, a single one of them sometimes producing as many as ten thousand young malarial parasites. After the parasites have developed fully, which requires eight days in warm weather, they make their way to the venom gland of the mosquito and there remain until it bites, when they are injected into the body of the individual attacked along with the poison. After getting into the human blood, each parasite attacks a red blood cell, bores into it, and grows at the expense of the cell until it reaches maturity, at which time it divides up into from seven to twenty-five young parasites which are liberated and each in turn attacks a new cell. This process goes on until a sufficient number of parasites are produced in the individual to causes the symptoms of malaria, and the new subject of the disease thereafter becomes a source of danger to others in the vicinity through the intervention of still other malarial mosquitoes.

From the foregoing it is seen that the proper way to avoid malaria is to so screen houses that mosquitoes can not enter them. Persons in malarial districts should not sit on open porches at night, and should be very careful to sleep under properly constructed nets. If this be done, there is absolutely no danger of any one ever contracting the disease. It will be observed that these precautions are not necessary in the daytime, as the malarial mosquito rarely attempts to bite during this period.

It should be remembered by those who have the disease that they are a constant source of danger to people living in the vicinity, and they should be doubly careful as long as the disease persists to avoid being bitten by mosquitoes at night. It is furthermore their duty to vigorously treat the disease until the parasites are no longer present in their bodies, at which time they cease to be a menace to others.

Attention should be particularly called to the fact that many children have malaria without showing symptoms, and if allowed to sleep without being properly covered with a net, are very apt to infect a large number of malarial mosquitoes; the blood of children in malarial localities should be from time to time examined, and if the parasites be found they should be given the proper remedies until a cure is effected.

Particular attention should also be directed to the fact that almost all negroes in malarial localities harbor the parasites, though very few of them show symptoms of their presence. It is, therefore, very important that they be treated properly, and their white neighbors should see to it, for their own safety, that they do not sleep in houses unprotected by nets.

If the precautions herein detailed were properly carried out, for even a few months, malaria would practically cease to exist in our State, and would not recur without individuals suffering from the disease from other places were to come into the districts where the *Anopheles* mosquito is present.

N. B.—THE STATE BOARD OF HEALTH, AT ITS LABORATORY IN THE CAPITOL AT ATLANTA, IS PREPARED TO MAKE EXAMINATIONS OF THE BLOOD FOR MALARIAL PARASITES, FREE OF COST, AND WILL VERY

GLADLY MAKE SUCH TESTS AND REPORT
THE RESULTS TO ANY ONE DESIRING THEM.
SPECIMENS SHOULD BE ADDRESSED TO DR.
H. F. HARRIS, SECRETARY STATE BOARD OF
HEALTH, ATLANTA, GEORGIA.

CIRCULAR 7.

MEMORANDUM ON YELLOW FEVER.

CIRCULAR ISSUED BY THE STATE BOARD OF HEALTH
OF GEORGIA.

TO THE PEOPLE OF GEORGIA:

Yellow fever having recently become widely epidemic in the southern portion of the United States, and a case having just occurred in Atlanta, the Georgia State Board

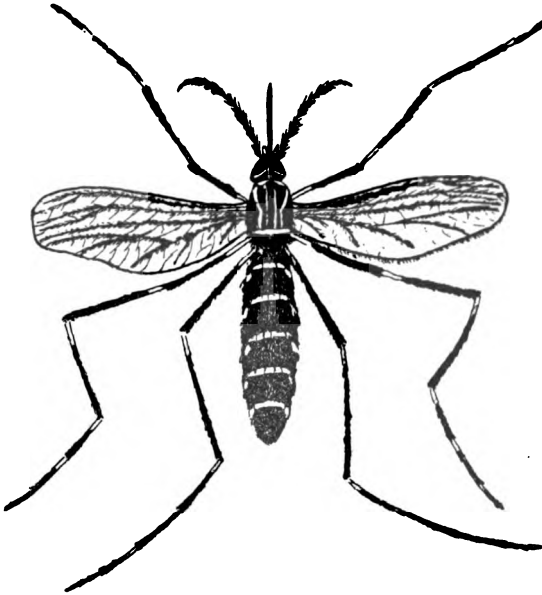


FIG. 1. *Stegomyia fasciata*.

of Health has deemed it advisable to issue to the people of the State the following circular, descriptive of the character of the disease, and the means by which it may be successfully combated.

I. CHARACTER OF THE DISEASE. Yellow fever is a malady which has heretofore defied scientific investigation

as to its causation; that it is produced by a living germ there can be no doubt, and it has been positively demonstrated that the causative agent occurs in the blood of those suffering from the affection, since the disease may be transmitted to others by injecting beneath their skin a small quantity of this fluid from one affected with the malady.

2. COURSE OF THE DISEASE. Yellow fever almost invariably begins abruptly with a chill, or chilly sensations, followed by intense pain in the eyes and front of the head, pain in the loins and limbs, and fever. In from two or three to twelve hours the chilly sensations pass away and the temperature rapidly rises to from 102° F to 107° F., depending upon the severity of the disease. The pulse becomes quick, and there is constipation with loss of appetite and nausea; during this period the patient frequently vomits a clear acid liquid. Very characteristic during this stage of the disease is a peculiar reddening with slight swelling of the face, accompanied by great brilliancy of the eyes, which are also decidedly reddened.

On the second or third day all of these symptoms subside and the patient passes into the second stage of the disease. He may go on to uninterrupted recovery in the milder cases, but in the more malignant forms of the malady there is a third stage in which the unfortunate patient generally dies.

After the second stage has lasted from a few hours to two days, the patient grows worse, the temperature rises and there are thirst and great prostration; the patient begins again to vomit, the material thrown up oftentimes containing coffee-ground like masses, or being black throughout. During this latter period the yellow discolorations of the skin occurs, which becomes more and more intense as the disease progresses; in severe cases toward

a fatal termination, and after death occurs, the skin of the patient assumes a deep lemon hue, which is so characteristic that it could scarcely be mistaken. Although recovery from the third stage of the disease is rather unusual a considerable number of patients ultimately get well.

3. TREATMENT OF THE DISEASE. Unfortunately we possess no remedies that decidedly influence the course of yellow fever, and, as a consequence, the treatment is limited to nursing the patient and attempting to alleviate those symptoms that occasion most distress. In all cases as soon as there is the least suspicion that this disease exists a competent physician should be called.

4. MODE OF INFECTION. It has been conclusively shown that yellow fever is only naturally transmitted from man to man by means of a particular kind of mosquito, known as the *Stegomyia*. This brilliant discovery was made by Dr. Walter Reed, of the U. S. Army, ably assisted by Drs. Jas. Carroll and J. W. Lazear—the last of whom fell a victim to his scientific zeal, he having died from yellow fever as a result of having permitted himself to be bitten by an infected mosquito. Space does not permit going into a detailed description of these experiments—all that can be said here being that these investigations were so carefully carried out that no doubt is longer entertained by the scientific world as to their true significance.

The *Stegomyia* is a mosquito that is present in most parts of Georgia during the summer months, being, however, much more common in the southern portions of the State. It is found in considerable numbers in Atlanta, and is probably present in still more northerly portions of the State.

In Fig. 1 is shown the principal peculiarities of this mosquito.

A technical description of its distinguishing peculiarities would be useless in this circular, but it may be stated that it differs from almost all of the common mosquitoes in the fact that on the upper portion of its head and body there are a number of brilliant silvery white markings, and around its legs similar whitish rings occur; it is quite characteristic that the last joints of the hind legs are white.

This mosquito is pre-eminently one that lives in houses, it being rarely seen in the open. It does not sing very much. It frequently attacks man during the day, and is very active, and decidedly more difficult to kill than the common mosquito.

Much misapprehension still exists as to the conditions under which yellow fever is carried by the *Stegomyia*, and it may not, therefore, be without interest to review briefly the manner in which this is brought about.

It is not true, as is commonly supposed, that any *Stegomyia* can transmit the disease, for it is necessary that some one with yellow fever must have been previously bitten before this can be done. The following facts have been clearly demonstrated:

(a) The mosquito must have bitten a person suffering from yellow fever sometime during the first three days of the attack; after this the germs of this disease can not be taken from the patient.

(b) A period of twelve days or more must elapse after the patient is bitten before the mosquito can convey the disease to another person.

(c) After one who is susceptible has been bitten by an infected mosquito the person shows symptoms of the malady in nearly every instance within five days; the

period is generally between three and four days, but in rare instances the time is somewhat less than two days, and in others a little over six days.

5. THE FOLLOWING MEASURES FORMULATED BY THE U. S. ARMY MEDICAL BOARD OF 1900, AND INDORSED BY THE AMERICAN PUBLIC HEALTH ASSOCIATION, EMBRACE ALL THE INFORMATION NECESSARY TO ENABLE THOSE INTERESTED TO INTELLIGENTLY COMBAT YELLOW FEVER:

Facts about screening.

(a) The netting should have meshes fine enough to prevent the passage of mosquitoes (at least 18-20 meshes to the inch).

(b) It is important to screen the windows and doors of the house. It is doubly important to screen the beds of fever patients.

(c) Mosquitoes can bite through mosquito nets when any part of the patient's body is in contact with the netting.

(d) Frequent examinations should be made to see that there are no torn places in the netting, or that no mosquitoes have found a lodgment inside.

(e) The netting should be well tucked in to keep mosquitoes from entering.

(f) If mosquitoes are found within the netting they should be killed inside, not merely driven or shaken out.

(g) All cases of fever should be promptly reported to the local health officer. Awaiting his arrival, they should be covered with a mosquito bar.

Facts bearing on mosquito destruction.

(a) Mosquitoes live in the vicinity in which they breed. They do not often fly a long distance.

(b) Mosquitoes breed only in water, usually in artificial collections of fresh water.

(c) The young mosquito, or wriggler, lives in water at least seven to twelve days.

(d) Although wrigglers live in water, they must come frequently to the surface to breathe.

(e) Coal oil on the surface of the water prevents the wrigglers from breathing.

(f) Destroy all breeding places and you will destroy the mosquitoes.

(g) Empty the water from all tubs, buckets, cans, flower pots, vases, once every forty-eight hours.

(h) Fill or drain all pools, ditches, unfilled post-holes and the like.

(i) Change regularly every day all water needed in chicken coops, kennels, etc.

(j) Treat with coal oil all standing water which can not be screened or drained (1 ounce of oil will cover fifteen square feet of surface). The oil does not affect the water for use if the water is drawn from below.

(k) Where oil is applied to standing water it must be distributed evenly over the surface.

(l) Put fine wire netting over cisterns, wells and tanks of water in every-day use.

(m) Places in which it is undesirable to put oil, such as watering-troughs for stock, lily ponds, etc., can be kept free from wrigglers by putting in goldfish or minnows.

(n) Clean away all weeds, grass and bushes about ditches, ponds and other possible breeding-places, since these afford a hiding place for the mosquitoes.

(o) Clean up vacant lots and backyards of all cans, tins, bottles and rubbish.

(p) First do away with, or treat all places where mos-

quitoes are known to breed, and then begin to work on places where they might breed.

(q) Inspect and treat with coal oil, gutters, culverts, ditches, manholes, catching basins, etc., along the roadside. Manhole covers should be screened.

(r) Houses should be cleared of mosquitoes by burning one pound of insect powder or two pounds of sulphur to 1,000 cubic feet of space. The mosquitoes will fall to the floor and should be collected and burned.

(s) Success in mosquito destruction depends upon the co-operation of the members of the entire community.

(t) While the infection of yellow fever is carried by a single species of mosquito (the *Stegomyia*), to insure its destruction it is necessary to destroy all mosquitoes.

In places liable to yellow fever both individuals and communities have an effective method of protecting themselves, as indicated above. Use the mosquito bar at once over all cases of fever until the danger from yellow fever has passed. Destroy all mosquitoes.

September, 1905.

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